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Docket H10313JDP  
Customer No. 01333

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

Thomas J. Foster

POST RIP IMAGE RENDERING  
IN AN ELECTROGRAPHIC  
PRINTER TO PREVENT  
CHARACTER SHIFT

Serial No. 10/785,676

Filed 24 February 2004

Group Art Unit: 2625

Examiner: Mark E. Wallerson

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Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*Debbie Nowacki*  
Debbie Nowacki

*May 12, 2006*  
Date

Mail Stop APPEAL BRIEF-PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA. 22313-1450

Sir:

**APPEAL BRIEF TRANSMITTAL**

Enclosed herewith is Appellants' Appeal Brief for the above-identified  
application.

The Commissioner is hereby authorized to charge the Appeal Brief filing  
fee to Eastman Kodak Company Deposit Account 05-0225. A duplicate copy of  
this letter is enclosed.

Respectfully submitted,

Justin D. Petruzzelli/d-n  
Telephone: 585-726-7522  
Facsimile: 585-477-4646

Enclosures

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the  
Examiner is requested to communicate with Eastman Kodak Company Patent Operations at  
(585) 477-4656.

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Registration No. 52,118



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**APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37 and 35 U.S.C. 134**

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### **APPELLANT'S BRIEF ON APPEAL**

Appellants hereby appeal to the Board of Patent Appeals and Interferences from the Examiner's Final Rejection of claims 1-24 which was contained in the Office Action mailed September 20, 2005.

A timely Notice of Appeal was filed March 15, 2006.

### **II. Real Party In Interest**

As indicated above in the caption of the Brief, Eastman Kodak Company is the real party in interest.

### **III. Related Appeals And Interferences**

No appeals or interferences are known which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

#### **IV. Status Of The Claims**

Claims 1-24 are pending, with Claims 1, 7, 13, and 19 in independent form. Claims 1-24 stand finally rejected and are the subject of this appeal. Appendix I provides a clean, double spaced copy of the claims on appeal.

## **V. Status Of Amendments**

A Response Under 37 C.F.R. 1.116 was filed on November 18, 2005. As noted in the Advisory Action dated April 21, 2006, such Response was considered by the Examiner but was deemed not to place the application in condition for allowance.

## **VI. Summary of Claimed Subject Matter**

Claim 1 requires a method of altering the appearance of an input digital image when printed, the digital image comprised of an array of pixels and wherein each pixel is assigned a digital value representing marking information, the method comprising the steps of defining each pixel as either a background pixel, interior pixel, or an edge pixel; identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and, reassigning the digital value of one or more enclosed edge pixels independently of other pixels.

Notable features of Claim 1 are identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and reassigning the digital value of one or more enclosed edge pixels independently of other pixels. Support for these features can be found in the specification at least at paragraph [0091], which is described with reference to FIG. 10. This portion of the specification describes problems associated with over-reducing line width in characters especially of a small font size. This paragraph also describes problems associated with apparent shift of character locations. This paragraph describes a solution to these problems that involves assigning “pixel values such that closed characters (those having enclosed spaces such as o, d, b, etc.) have reduced exposure only for the interior or exterior edges of enclosed areas.” See page 27, lines 9-11 of the specification. As shown in FIG. 10 a letter “O”, which is a closed character having an enclosed area, has interior edges and exterior edges with different exposure values assigned to them. “This helps to maintain a center location of [the] character without achieving excessive linewidth reduction.” (It is to be understood, of course, that the scope of Claim 1 is not limited to the details of this embodiment, which is referred to only for purposes of illustration.)

Independent Claims 7, 13, and 19 include the same or similar notable features of Claim 1 described above. Therefore, Claim 1 will be treated as representative of all claims.



## **VII. Grounds of Rejection to be Reviewed on Appeal**

The following issue is presented for review by the Board of Patent Appeals and Interferences:

1. Claims 1-24 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 4,791,676 (Flickner et al.).

### **VIII. Arguments**

Claims 1-24 have been rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 4,791,676 (Flickner et al.). Applicant respectfully traverses these rejections and submits that all claims are patentable over the Flickner et al. patent for at least the following reasons. Claim 1 will be treated as representative of all claims.

The Office Action at paragraphs 4 and 5 at pages 2 and 3, respectively, alleges that the Flicker et al. patent teaches the features of Claim 1 of identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and reassigning the digital value of one or more enclosed edge pixels independently of other pixels. In particular, at paragraph 5 of the Office Action, an image frame according to the Flickner et al. patent is equated with a print character according to Claim 1. (“Flickner discloses enclosed edge pixels located at the edge of enclosed areas of print characters (image frame) . . . .”)

Although Applicant acknowledges that the Flickner et al. patent discloses plural image frames 16, 18, 20, and 22, as shown in FIG. 1 and col. 4, lines 15-35, Applicant respectfully does not agree that such frames can be considered print characters according to Claim 1. The American Heritage Dictionary of the English Language, Fourth Edition (Copyright 2000, published by Houghton Mifflin Company) defines “character” as a “mark or symbol used in a writing system.” Paragraph [0091] of the specification supports this definition by giving the letters “o,” “d,” and “b” as examples of characters having enclosed areas. Paragraph [0091] also gives the letters “v,” “c,” “m,” “n,” “t,” “y,” “w,” and “m” as other examples of characters. Although Claim 1 is not limited to the details of the embodiment described at paragraph [0091] of the specification, Applicant respectfully submits that the phrase “print character,” according to Claim 1, can reasonably refer to no more than a symbol from a set of symbols, whether or not the symbols are used in a writing system. Further, Applicant submits that a print character, by nature, must meet strict positional requirements such that each character is formed at a consistent location relative to one or more boundary

conditions. For example, an uppercase “P” must be formed so that the top of the “P” is formed at the top of the line on which it is printed, and the bottom of the “P” is formed at the bottom of the line on which it is printed.

In contrast to a print character, an image frame, according to the Flickner et al. patent, is understood to be akin to a piece of paper that an object is printed on, and is not understood to be a print character itself. To elaborate, the Flickner et al. patent describes that an image may be comprised of plural frames (16, 18, 20, and 22, for example) that are stitched together. See col. 4, lines 15-35. The image frames, like pieces of paper, are understood to be capable of retaining all sorts of objects, not just characters, at any location within the frame or even between frames. For example, FIG. 1 of the Flickner et al. patent shows three objects 10, 12, and 14, not understood by Applicant to be limited to characters, of which portions of object 14 are located in all four image frames 16, 18, 20, and 22. See col. 4, lines 15-35. Accordingly, Applicant submits that an image frame does not meet the definition of a print character because each image frame is not, itself, a symbol from a set of symbols, and the objects retained by the Flickner et al. patent’s image frames do not have to meet the positional requirements that characters are subjected to.

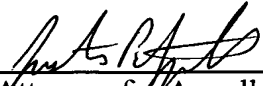
In summary, it is Applicant’s position that an image frame, according to the Flickner et al. patent, is not a print character according to Claim 1. Consequently, Applicant respectfully submits that the Flickner et al. patent does not teach or suggest identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and reassigning the digital value of one or more enclosed edge pixels independently of other pixels, as required by Claim 1. For at least these reasons, Applicant submits that Claim 1 is patentable over the Flickner et al. patent and respectfully requests reversal of the Section 102(b) rejection.

Independent Claims 7, 13 and 19 include the same or similar features to those described above in connection with Claim 1, and are submitted to be patentable for at least the same reasons. Therefore, reversal of the Section 102(b) rejections of these claims also is respectfully requested. The other rejected claims in this application depend from one of the independent claims discussed above

and therefore are submitted to be patentable for at least the same reasons.  
Accordingly, reversal of the Section 102(b) rejections of these claims also is respectfully requested.

Respectfully submitted,

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Registration No. 52,118

## **IX. Appendix I - Claims on Appeal**

1. A method of altering the appearance of an input digital image when printed, the digital image comprised of an array of pixels and wherein each pixel is assigned a digital value representing marking information, the method comprising the steps of:

defining each pixel as either a background pixel, interior pixel, or an edge pixel;

identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and,

reassigning the digital value of one or more enclosed edge pixels independently of other pixels.

2. A method in accordance with claim 1, wherein the digital image is a binary image.

3. A method in accordance with claim 1, wherein the digital image is a multi-bit image.

4. A method in accordance with claim 1, wherein the reassigning step comprises increasing the value of enclosed edge pixels with respect to interior pixels.

5. A method in accordance with claim 1, wherein the reassigning step comprises decreasing the value of enclosed edge pixels with respect to interior pixels.

6. A method in accordance with claim 1, further comprising performing the defining and reassigning steps two or more times.

7. A method of printing an image comprising the steps of:  
converting the image into a digital bitmap comprised of an array of pixels wherein each pixel is assigned a digital value representing marking information;  
defining each pixel as either a background pixel, interior pixel, or an edge pixel;  
identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas, and,  
reassigning the digital value of one or more enclosed edge pixels independently of other pixels.

8. A method in accordance with claim 7, wherein the converting step comprises converting the image to a binary digital bitmap and the reassigning step comprises reassigning the binary digital values to multi-bit digital values.

9. A method in accordance with claim 7, wherein the converting step comprises converting the image to a multi-bit digital bitmap and the reassigning step comprises reassigning the binary digital values to multi-bit digital values.

10. A method in accordance with claim 7, wherein the reassigning step comprises increasing the value of edge pixels with respect to interior pixels.

11. A method in accordance with claim 7, wherein the reassigning step comprises decreasing the value of edge pixels with respect to interior pixels.

12. A method in accordance with claim 7, further comprising performing the defining and reassigning steps two or more times.

13. An apparatus for altering the appearance of an input digital image when printed, the digital image comprised of an array of pixels and wherein each pixel is assigned a digital value representing marking information, the apparatus comprising:

a rendering circuit for defining each pixel as either a background pixel, interior pixel, or an edge pixel; identifying enclosed edge pixels located on the edge of enclosed areas of print characters having enclosed areas; and, reassigning the digital value of one or more enclosed edge pixels independently of other pixels.

14. An apparatus in accordance with claim 13, wherein the digital image is a binary image.

15. An apparatus in accordance with claim 13, wherein the digital image is a multi-bit image.

16. An apparatus in accordance with claim 13, wherein reassigning comprises increasing the value of enclosed edge pixels with respect to interior pixels.

17. An apparatus in accordance with claim 13, wherein reassigning step comprises decreasing the value of edge pixels with respect to interior pixels.

18. An apparatus in accordance with claim 13, wherein the rendering circuit further comprises performing the defining and reassigning steps two or more times.

19. An apparatus for printing an image comprising:  
a raster image processor for converting the image into a digital bitmap comprised of an array of pixels wherein each pixel is assigned a digital value representing marking information;  
a rendering circuit for defining each pixel as either a background pixel, interior pixel, or an edge pixel; and, reassigning the digital value of one or more edge pixels or interior pixels independently, thereby altering the appearance of the image when printed.

20. An apparatus in accordance with claim 19, wherein converting comprises converting the image to a binary digital bitmap and the reassigning comprises reassigning the binary digital values to multi-bit digital values.

21. An apparatus in accordance with claim 19, wherein converting comprises converting the image to a multi-bit digital bitmap and the reassigning step comprises reassigning the binary digital values to multi-bit digital values.

22. An apparatus in accordance with claim 19, wherein reassigning comprises increasing the value of enclosed edge pixels with respect to interior pixels.

23. An apparatus in accordance with claim 19, wherein reassigning comprises decreasing the value of edge pixels with respect to interior pixels.

24. An apparatus in accordance with claim 19, wherein the rendering circuit performs performing the defining and reassigning two or more times.



## **X. Appendix II - Evidence**

### **XI. Appendix III – Related Proceedings**